
Impact of the Global Recession on Financial and Economic Sustainability of Industrial Companies

Tatyana A. Khudyakova¹, Andrey V. Shmidt²

Abstract:

On the cusp of the 20th and 21st centuries it is extraordinary difficult to provide the stability of national economies due to globalisation effects. In fact, globalisation causes major interdependence between economies of different countries, therefore, their economic relations influence the world economic climate.

Countries develop strong business ties with their counterparts; national economies are integrated due to such factors as division of labour, internationalisation of monetary funds, scientific and technological progress, increasing degree of national economies openness and free trade. As a result, economies of different countries integrate into the worldwide reproduction process. International economic integration indicates a high development level of global economy.

However, since single countries become exposed and highly susceptible to changes in economies of other states, the external environment is implied to present a significant uncertainty for commercial operations in single countries. Hence, in order to provide a stable functioning of both individual businesses and national economies it is necessary to analyse macro- and microeconomic parameters carefully, identify consistent patterns and make relevant predictions aimed at preventive management. The present article will discuss these challenges.

Keywords: Sustainability, sustainable development, sustainability management, bankruptcy, industrial companies, investments, growth rates, sustainable economy.

JEL code: E27, F43, Q01, A14.

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¹Head of Department “Applied Economics”, South Ural State University, School of Economics and Management, Department of Applied Economics, Russia, email: khudiakovata@susu.ru, ek_pred@mail.ru

²Vice-Rector, Professor of Department “Applied Economics”, South Ural State University, School of Economics and Management, Department of Applied Economics, Russia, email: shmidtav@susu.ru, kafedra_eims@mail.ru

1. Introduction

Global financial crisis of 2008, which caused the world recession, affected economies of practically 230 countries worldwide. When compared to other economic fluctuations, the above mentioned recession was characterized as more profound, unpredictable and lengthy.

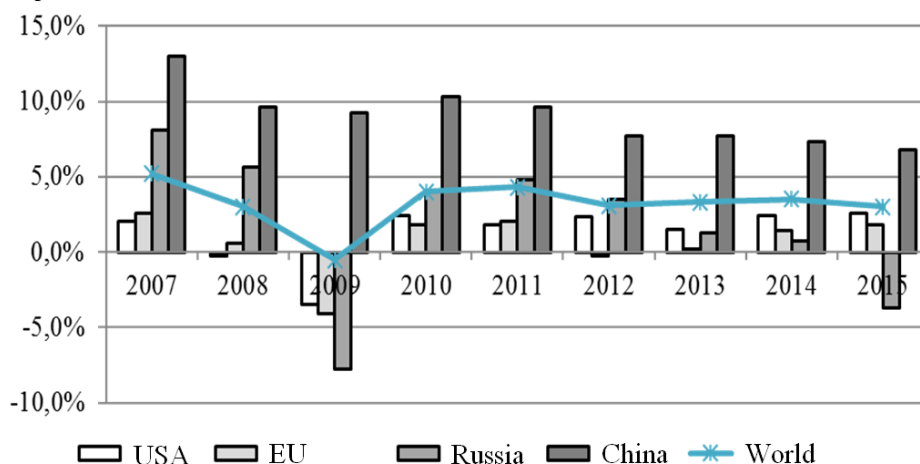
Contrary to the long-standing classical scheme, the 2008 recession did not start as an overproduction crisis, but rather as a crisis on the financial markets. This accounts for the fact that modern capitalist economy is fundamentally virtual by nature, which contradicts objective laws of economic and social development. It is common knowledge that in the system of social reproduction the production phase, i.e. when material benefits are created, dominates other stages of development. This phase determines the country's economic development, for it lays the foundation for developing its real sector, whereas virtual economy is characterized by developing the exchange aspect rather than production of goods. To be more exact, virtual economy deals with circulation of currencies and securities, i.e. it has a subsidiary nature as opposed to the sphere of direct production. In 2008 in the structure of economy there emerged a huge gap between volume parameters shown by its financial and non-financial (real) sectors (Izotov and Rostova, 2017; Khudyakova and Shmidt, 2015; Duncan and Kabundi, 2014). According to some reports, at the time of the crisis the real sector accounted for only about 7%, while the remaining 93% presented a derivation from financial capital. The phenomenon got the name of "the financial bubble".

2. Analysis of the global recession impact on macroeconomic indicators

In its turn, the global financial crisis induced an economic crisis, which, as we have stated before, affected a number of macroeconomic indices in 230 countries worldwide. This had an instant impact on the level of GDP (gross domestic product) (Figure 1) and "sparked off" even bigger problems in the real sector of economy. In 2009, for the first time since the end of World War II, chain indices of GDP growth fell into the zone of negative values practically all over the world except China (Bergman and Hutchison, 2015; Andreosso-O'Callaghan and Morales, 2014). Unfortunately, in Russia the global recession was very strong, so its GDP dropped by 7.8% (EREPORT.RU: World economy, 2018) (Figure 1), and it was one of the worst declines around the globe. However, in 2015 Russia showed another decline in GDP, while other regions were relatively stable.

The crisis in real sector of economy instantly affected the global job market. Over the period from 2008 to 2009 the unemployment level increased from 6.1% to 10%. According to the International Labour Organisation (ILO) in 2009 the world unemployment rate reached its peak over the entire period of monitoring. The unemployment rate raised to nearly 212 million people. In 2009 among young adults the peak unemployment rate was 13.4% (EREPORT.RU: World economy, 2018).

Figure 1. Dynamics of real index of GDP, in percentage, as compared with the prior period



Source: Compiled by the authors.

Besides, according to ILO's estimates, in 2009 as opposed to 2008, the number of men and women with vulnerable employment increased by 110 million people. There was a radical drop in the income level of households: in 2008, for instance, 633 million of workforce and their family members had less than 1.25 USD a day, while in 2009 215 million more people existed on the brink of poverty (EREPORT.RU: World economy, 2018).

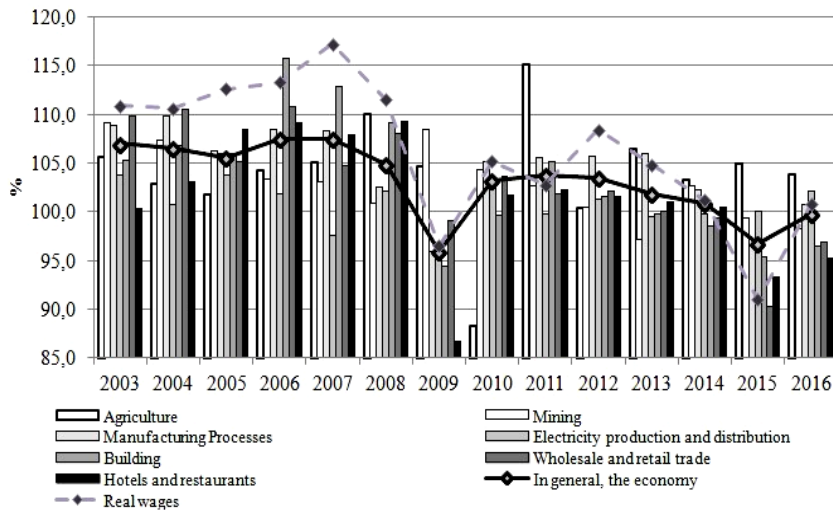
In 2008 the number of the officially registered unemployed in Russia increased by 750,000 and reached 5 million. However, according to Rosstat (the Russian Federal State Statistics Service) de facto the unemployment rate was even higher and the number of the unemployed amounted to 6.4 million people, or 8.5% of economically active population of the country (EREPORT.RU: World economy, 2018).

The crisis on the labour market and decrease of the demand resulted in a widespread fall of output per worker. The sharpest output slump was recorded in Central and South-Eastern Europe along with CIS countries – 4.7% (The impact of the financial crisis on the global automobile industry, 2018). In Russia in 2009 the performance decrease amounted to roughly 4.1%, compared to 2008. Since 2012 we have been facing a similar decline of work performance in Russian economy, but today the rate of decreasing the level of real income exceeds the same data of 2009 (Figure 2). Herewith, it is seen that the growth rates of wages has exceeded the growth rates of labour productivity practically in all periods over the last decade, and in this way “the golden rule” of economic development is infringed.

The share profit, remaining at the disposal of a company, declines, consequently its investment activity also declines. It results in the decrease of the coefficient of renewal of the company's capital assets, while on average capital assets in

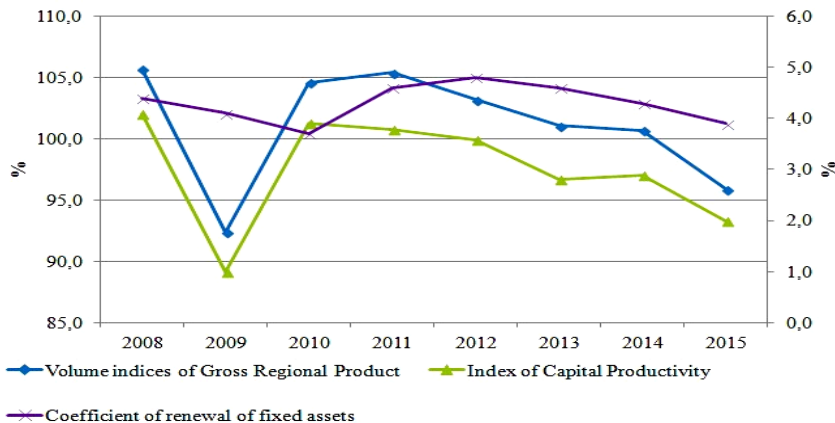
production industries are quite worn-out as it is (Figure 3). Besides, the same trend continued in 2009 and 2015, which demonstrates similarity in economic circumstances of the two given periods.

Figure 2. Dynamics of labour productivity in the Russian Federation



Source: Compiled by the authors on the basis of (Site of the State Statistical Service of the Russian Federation, 2018).

Figure 3. Dynamics of key indices of production output and asset utilisation in the Russian Federation

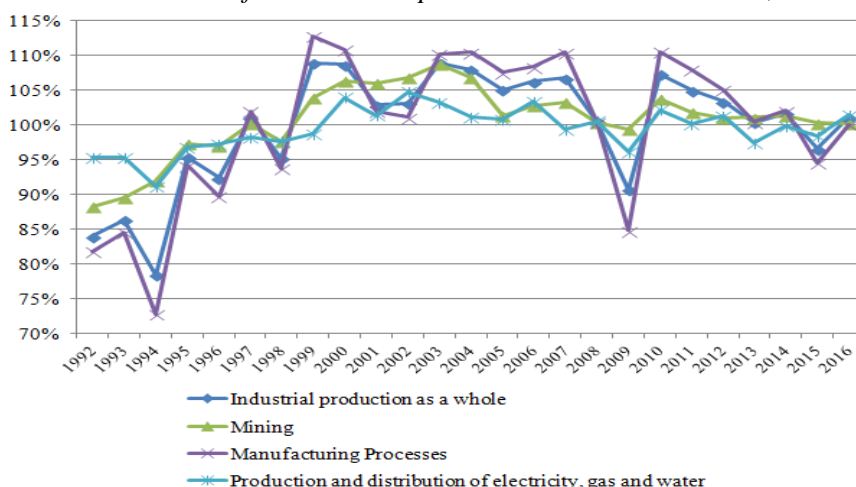


Source: Compiled by the authors on the basis of (Site of the State Statistical Service of the Russian Federation, 2018).

Deterioration of the production sector could not but influence performance and internal state of its smallest parts, i.e. industrial companies. Since perestroika, Industrial Production Indices in the Russian Federation showed a negative growth

for the first time (Figure 4), which provoked a further decrease of GDP (Figure 1). In 2009 the average fall of Industrial Production Indices amounted to 10%, whereas manufacturing companies experienced the worst stagnation, where the average decline amounted to 15%. In 2015 Industrial Production Indices showed a downward trend again.

Figure 4. Chain indices of industrial output in the Russian Federation, in %



Source: Compiled by the authors on the basis of (Site of the State Statistical Service of the Russian Federation, 2018).

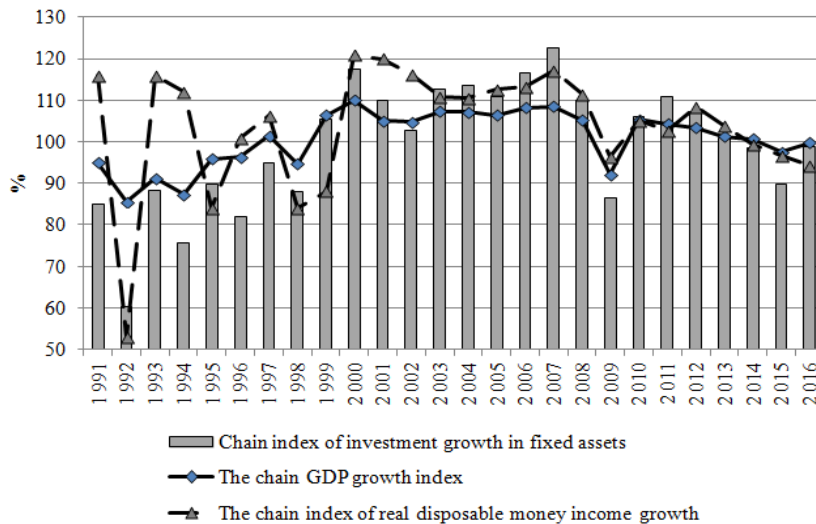
Every crisis develops according to its unique scenario. Nevertheless, it is possible to “diagnose” a common syndrome of economic recession. This syndrome involves general decline of economy, slowdown in the growth or reduction of the level of GDP, decline in production, rise in unemployment levels, decrease of household incomes and budget revenues, termination of social programmes, etc. In 2010–2011, judging by a number of economic indices, one could conclude that economy had practically recovered its pre-crisis level. However, from the middle of 2012 the growth rate of key macroeconomic indices of Russia started to decline.

At the end of 2013 the economic conditions of industrial companies in the Russian Federation worsened again. The analysis of some production sector indices (Figure 4) suggests that in 2013 they did not grow, while indices of certain branches even descended to negative values, as it happened in the electric power sector. Over the said period, the Russian economy saw recession of investment activity: the amount of investment into capital assets proved to be lower than in 2012 by 0.3%.

According to the Institute for Economy in Transition, 20% of Russian companies planned to cut their investment programmes in 2012, but at the beginning of 2013 the number of such companies went up to 24%, and in the middle of the same year it went up to 26% (Volovik, 2018). Meanwhile, Russian companies ranked

disinvestment as one of the top means to withstand the crisis: only cost saving and minimization of stock balance were placed higher in the list of anti-crisis measures (Figure 5).

Figure 5. Dynamics of some economic indices in the Russian Federation



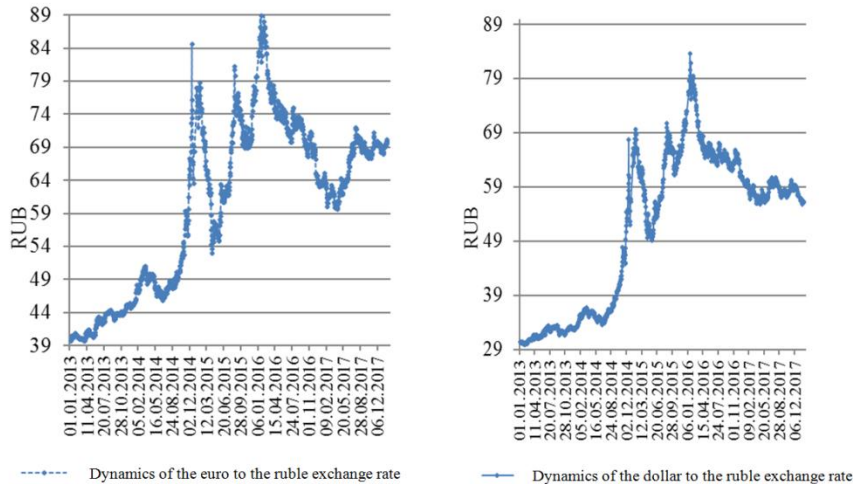
Source: Compiled by the authors on the basis of (Site of the State Statistical Service of the Russian Federation, 2018).

Analysis of Figures 1–5 shows that since 2012 there has occurred a reduction of the growth rate of all the indices, which are used to define the economic status of separate companies and the national economy as a whole.

Creating conditions for stable functioning of national economies today is a more complicated task than ever due to the fact that on the cusp of the 20th and 21st centuries globalisation of world economy has progressively been gaining momentum, and it has manifested itself in interrelations of national economies and influence of world economic relations on the economic climate of single countries. Today countries establish stable international economic contacts. Economic integration emerged due to the following factors: international division of labour, internationalisation of the capital, the global nature of scientific and technological progress, an increasing degree of national economies openness and free trade. Accordingly, economies of different countries tend to come together, incorporating on a worldwide scale into the united reproduction process. International economic integration presents a fine and straightforward indicator of the development of the world economy, but it also piles uncertainty of the outside environment on operating businesses in different countries, which makes them dependent on economic changes in foreign states.

Fluctuations on global foreign exchange markets coupled with deterioration of the Russian production sector in 2006–2016 resulted in sizable fluctuations in exchange rates of the national currency. Due to this fact, the Central Bank of the Russian Federation has had to expand bi-currency corridor more than once, which in its turn led to a sharp weakening of the national currency, when exchange rates of dollar and euro surpassed their historical peaks (Figure 6).

Figure 6. Dynamics of the currency rate over the period from the middle of 2006 to the end of 2017



Source: Compiled by the authors on the basis of (Database on exchange rates, Central Bank of the Russian Federation, 2018).

Traders also ascribe a slump in the rouble exchange rates to economic globalisation. Decreased amount of free money has triggered transfers of investment flows all over the world. Funds have been withdrawn from developing economies including Russia and invested into developed economies.

There exist two bidirectional approaches to strengthening and weakening the exchange rate of the national currency and its impact on businesses. Some experts advocate for overvaluation, arguing that when the state deliberately overvalues the rate of exchange it is good for a consumer society, since it allows to obtain diverse and cheap, though low-quality, imported goods, and this is a way to satisfy people.

Besides, it also allows to restrain the inflation rate. However, an unjustified overrating of the national currency has negative implications as well. During the crisis national companies are weakened as it is, and they often fail to withstand competition represented by cheap imported goods. Besides, the state has to take constant measures to maintain the over-valuated exchange rate, whereas foreign exchange reserves are not unlimited, therefore sooner or later it will be impossible to maintain this rate.

Those who advocate the latter approach insist on undervaluation of the exchange rate of the national currency in order to motivate domestic producers, to substitute the imported goods applying innovative technologies, thus improving their competitive positions.

However, the experience has proven that manufacturers do not profit from either of these policies. When the state imposes correlation between Russian businesses and the imports, in fact they create dependencies on any fluctuation in the external environment.

Fluctuations on the exchange market had an immediate impact on the Russian production sector, having made their conditions even worse. At the end of the first three months of 2014 a range of science-consuming industries demonstrated an explicit failure. Production of gas turbines fell by 49%, generators – by 32.3%, fertilizer applicators – by 76.5%, metal-cutting equipment – by 13.7%, forging and pressing machines – by 27%, steelmaking facilities and foundry machines – by 24.7%, drilling rig systems – by 34%, caterpillar tractors – by 58.4%, while manufacturing rolling machinery fell by as much as 87.3%.

We are facing a similar situation in the electronics industry. A slowdown in transport machine building is a matter of even a greater concern, for over the first three months of 2014 production of trucks fell by 25.7%, buses – by 28.9%, trolleybuses – by 56.4%, and it was the most severe economic meltdown since the crisis of 2008–2009.

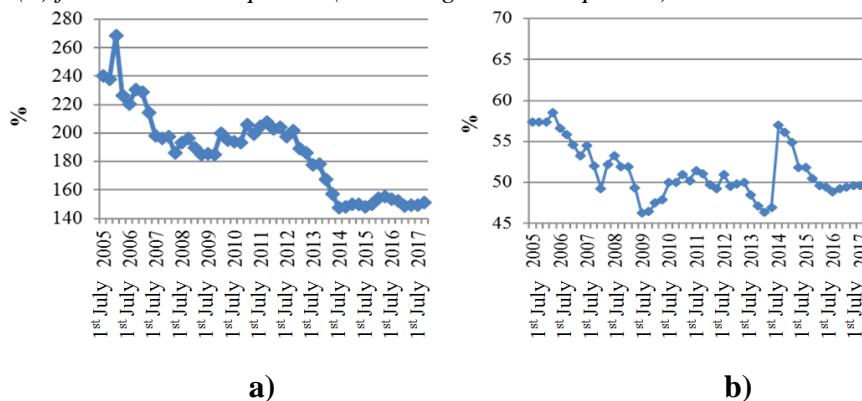
Meanwhile, experts assume that current trends on the market of foreign currencies will continue to be relevant in years to come, which means that in the foreseeable future we will still have to deal with their negative influence on the economic life of both individual companies and the country in general.

3. Analysis of the global recession impact on financial sustainability of companies

Violent fluctuations concerning macroeconomic factors are bound to affect financial and economic sustainability of the “end links” of the national economy, i.e. companies. Financial ratios show a significant dependence on turbulence of external environment; furthermore, recessions appear to make this dependency even stronger. Economists apply the coefficient called Equity to Total Assets to estimate the degree of independence of the company from its creditors; this coefficient is directly proportional to the level of financial stability of the company. So, over the past decade this indicator has been going constantly downward (Figure 7).

Another coefficient that characterizes financial sustainability of a company is the Working Capital Financed by Equity to Total Assets Ratio. It reflects whether the economic entity has got sufficient funds of its own to finance its daily operations.

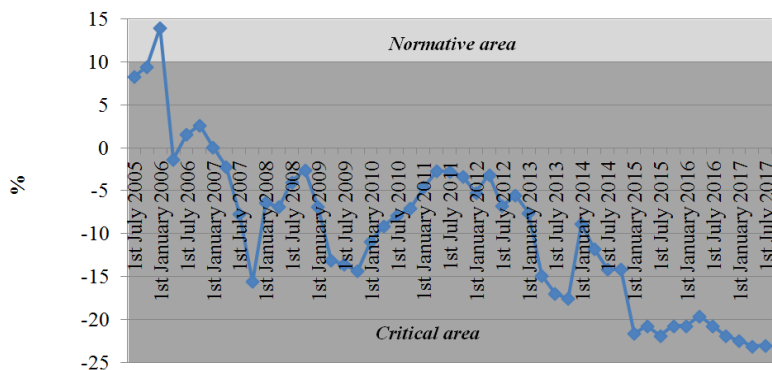
Figure 7. Values of the Current Liquidity Ratio (a) and the Equity to Total Assets Ratio (b) for Russian companies (excluding small companies)



Source: Compiled by the authors on the basis of (Site of the State Statistical Service of the Russian Federation, 2018).

The latter coefficient is not applied in western practices of financial analysis. In Russia this coefficient was enforced by Order №31-p dated 12.08.1994 of the Federal Bankruptcy Office and currently no longer operative RF Government Regulation No. 498 dated 20.05.1994 “On Necessary Measures Aimed at Implementing the Laws on Bankruptcy of Companies”. In compliance with the above-stated documents, this coefficient is used to identify insolvency (bankruptcy) of the economic entity, and its statutory value must be higher than 0.1. It should be noted that this value is difficult to achieve for majority of Russian companies, and this rigid criterion is unique to Russian practice of financial analysis. Despite this fact, it has been constantly decreasing over the past decades, and funds of Russian companies are even lower than their capital assets (Figure 8), which inevitably has a negative impact on their financial stability.

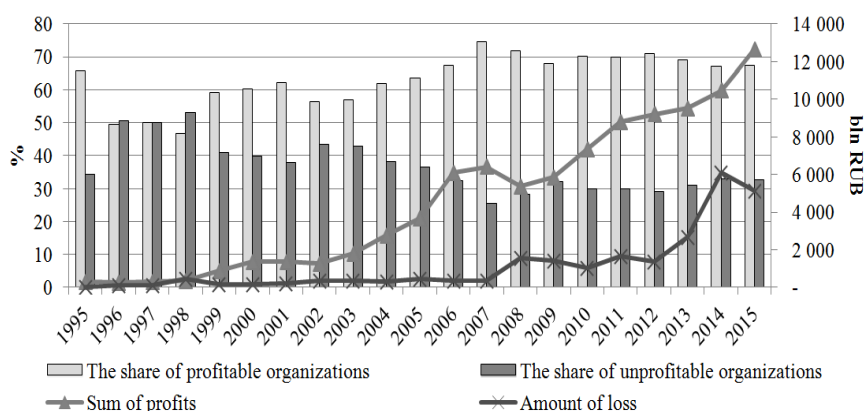
Figure 8. Working Capital Financed by Equity to Total Assets Ratio



Source: Compiled by the authors on the basis of (Site of the State Statistical Service of the Russian Federation, 2018).

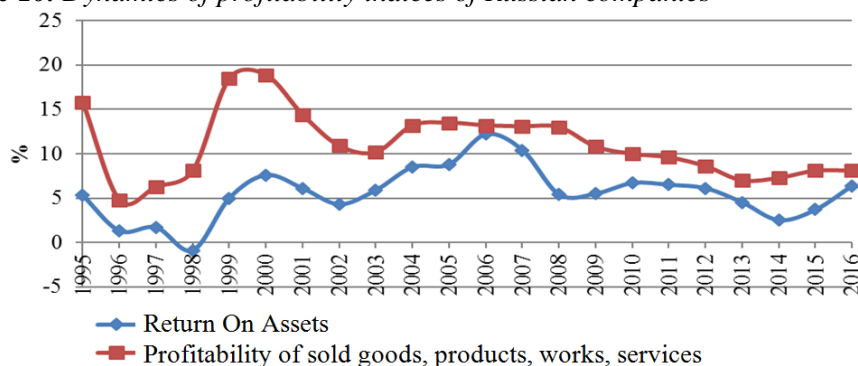
A decrease in financial stability of companies is reflected by their financial ratios. From Figure 9 it is clear that during recessions the profit growth rate of companies goes down or even becomes negative, the proportion of unprofitable companies goes up, which surely affects profitability ratio of Russian companies (Figure 10).

Figure 9. Dynamics of profit and loss indicators of Russian companies



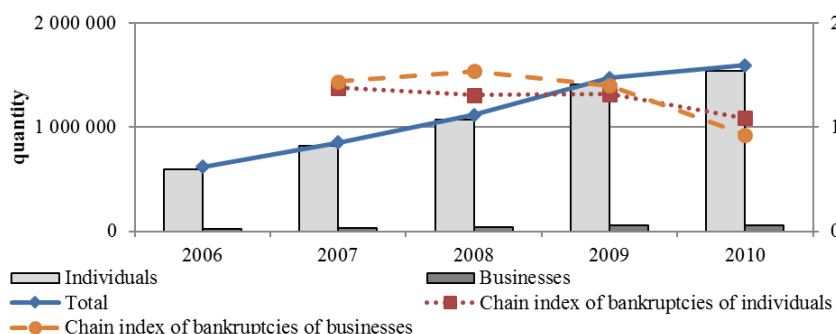
Source: Compiled by the authors on the basis of (Site of the State Statistical Service of the Russian Federation, 2018).

Figure 10. Dynamics of profitability indices of Russian companies



Source: Compiled by the authors on the basis of (Site of the State Statistical Service of the Russian Federation, 2018).

Production collapse, deterioration on the markets of work and finance, erosion of purchasing power and investment activity as well as other difficulties in national economies of practically all countries across the world resulted in a growing number of bankruptcies of economic subjects (Welfens, 2014; Wu *et al.*, 2015; Lopatta and Kaspereit, 2014). For instance, the chain bankruptcy index of legal entities in the USA in 2009 reached the point of 54%, and of physical persons – of 31% (Artemieva, 2012) (Figure 11).

Figure 11. Bankruptcy of legal and physical persons in the USA over the period from 2006 to 2010

Source: Compiled by the authors on the basis of (Artemieva, 2012).

According to the Information Agency RosBiznesKonsalting (RBC, Russian Business Consulting) (Table 1), 50% of ten largest American bankruptcies took place during the 2008 crisis, moreover, those were the companies with the largest assets (Lees, 2017).

Table 1. TOP 10 of largest bankruptcies in history of the USA

Company	Date of bankruptcy	Field of activity	Assets, bln \$
Lehman Brothers Holdings Inc.	15.09.2008	finances, investments	691.1
Washington Mutual, Inc.	26.09.2008	banking activities	327.9
WorldCom, Inc.	21.07.2002	telecommunications	103.9
General Motors Corp.	01.06.2009	car production	91.0
Enron Corp.	02.12.2001	power engineering	65.5
Conseco, Inc.	17.12.2002	finance	61.4
Chrysler LLC	30.04.2009	car production	39.3
Thornburg Mortgage, Inc.	01.05.2009	banking activities	36.5
Pacific Gas and Electric Co.	06.04.2001	electric power industry	36.2
Texaco, Inc.	12.04.1987	petrochemistry	34.9

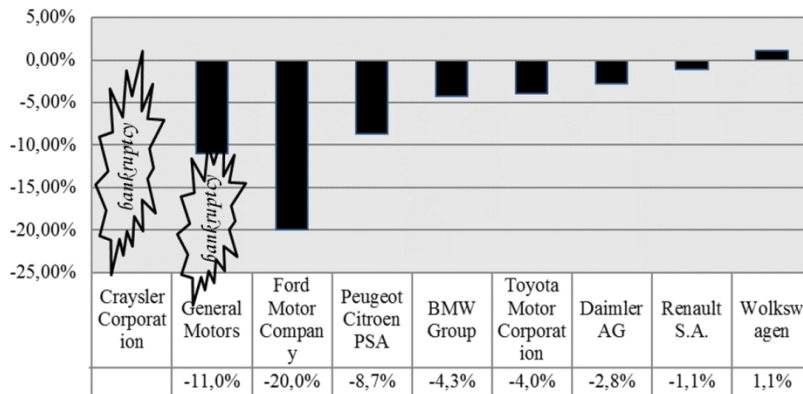
Source: Compiled by the authors on the basis of (The largest bankrupt USA, 2018).

One of the biggest bankruptcies in the history of the United States of America was the bankruptcy of the industrial company General Motors, whose assets amounted to \$91 bln, but the failure of the American national investment bank Lehman Brothers Holdings Inc. still remains the largest bankruptcy ever. Lehman Brothers Holdings

Inc. had \$691.1 bln in assets and 26 thousand people of staff. A great majority of financial analysts and economists agree that the bankruptcy of Lehman Brothers Holdings Inc. triggered the global financial crisis.

Table 1 explicitly demonstrates that the financial turmoil of 2008 caused the economic crisis of 2009. The largest world auto companies were mostly susceptible to its influence. Practically all world's leading car manufacturers suffered significant sales reduction, which in some cases initiated further bankruptcies (Figure 12).

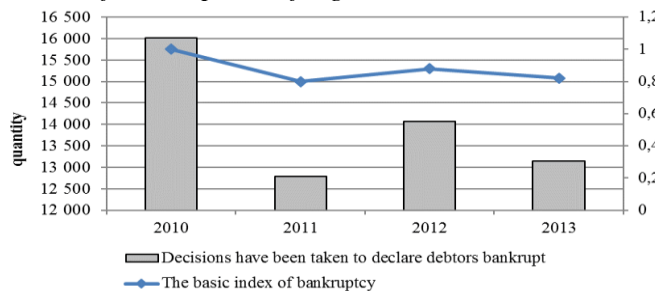
Figure 12. Rate of sales gains of the largest worldwide automotive manufacturing groups in 2008



Source: Compiled by the authors.

The Russian Federation also witnessed a dramatic increase in the number of bankruptcies driven by the global recession of 2008–2009, which reached its peak in 2010. As one can see from Figure 13, in 2010 in the Russian Federation more than 16,000 corporate debtors were declared bankrupt by Arbitration Courts only. However, a decrease of the base bankruptcy index does not evidence economic stability. According to RosStat, in the first quarter of 2016 about 30 companies across Russia went through bankruptcy proceedings, whereas more than a third of such companies had been functioning for 5-10 years.

Figure 13. Dynamics of bankruptcies of legal entities in the Russian Federation



Source: Compiled by the authors.

As for the Russian companies that suffered pure losses at the end of 2008, 214 bln RUB accounted for the ten companies that were hit worst by the economic decline (Table 2).

Table 2. TOP 10 of Russian companies that suffered pure losses in 2008

Rang	Company	Net loss, bln RUB
1	X5 Retail Group	-52.659
2	Alrosa	-32.598
3	PIK Group	-28.181
4	Avtovaz	-24.662
5	RusHydro	-19.480
6	MMC Norilsk Nickel	-13.670
7	Caspian Pipeline Consortium-P	-13.075
8	Amtel-Vredestein	-10.985
9	TGK-4	-9.744
10	Sviaz-Bank	-9.359
TOP-10:		-214.41

Source: Compiled by the authors on the basis of (Tsukhlo, 2013).

4. Conclusions

We can provide more examples of instability of corporate activities triggered by fluctuations of the external environment. Indeed, it is commonly known that economic life evolves different cycle lengths, so businesses have to face cycle-induced fluctuations all the time.

For this reason, companies should develop, introduce and refine a stability controlling system. Furthermore, it is essential to create a set of tools that would enable any economic entity to exercise integrated stability control, as well as to estimate the efficiency of implementing such control systems for that entity.

However, so far only few Russian companies have started to apply elements of control in their work. Thus, designing an effective all-embracing controlling system is a long-range objective for the economic science.

Obviously, against this background no company can boast a complete immunity to fluctuations of its operational environment even in periods of a seeming temporary stability of the national economy. The above presented fluctuations of factors that

reflect operational efficiency of both individual economic entities and national economies in their entirety also prove that there exist permanent fluctuations of operational environment, which become even more severe in the context of a world crisis.

We have considered only a few examples that serve as an illustration of instability of the global economy. For this reason, we have to admit that modern companies function in the context of permanent inherent uncertainty of the external operational environment, which, in its turn, strongly affects their stability level. Moreover, due to scarce predictability of the operational environment, its impact on a company is frequently negative.

All these factors add urgency to the necessity of introduction of special methodological aids designed to facilitate setting up stability controlling systems for industrial companies under the conditions of environment variability. Apparently, levelling such fluctuations should be the principal function for the system of management and control we consider. The solution of this immediate problem involves developing a controlling system for a company. Moreover, the system under discussion should be designed not just to improve management within a certain subsystem of the given mini-economic system, for example, a production subsystem or a marketing and sales subsystem; on the contrary, it should cover an industrial company as an integral complex of elements. In this regard, it is essential to develop a management mechanism, which will facilitate the development of an industrial company through launching a system for controlling financial and economic stability using principles of building models of super-complex systems in the context of variable external factors.

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